

MEETING NOTES FROM FY95 VALIDATION MEETINGS AT THE ROCKY FLATS PLANT (RFP)

Following are meeting notes from the three day validation meeting held at Rocky Flats June 7 - 9, 1993, at the Interlocken Facility, by Headquarters DOE/PR-24.

OU9 - This OU is buried 8 to 10 feet underground and is approximately 37,000 feet long. It consists of 40 tank sites ranging in tank size from 200 gal to 100,000 gal, with the typical being 5,000 gal. Many of the pipes have leaked or broken. Plans are to add the plant sewer line to this OU.

FY93 tasks were not implemented due to the deletion of FY93 funding from the budget. The project was rebaselined in December 1992 and funded for \$550K. Since that time the OU work plan has been developed and approved.

It is believed that a lot of the work concerning under building contamination (UBC) should be deferred and integrated with D&D. Bore hole estimates are based on a bore hole cost study performed in December 1992. The contingency factors used are considered very optimistic by the project engineer. Several disconnects (inconsistencies) were identified between the numbers in the Activity Data Dictionary sheet in Section 9 and the dollars for the same activity in Section 7.

OU6 - Several recent changes have been made to this OU that are not in the book. For example, Tye DeMass has been allocated \$9.2M for the pond water portion of this OU, with \$3.9M of that total being planned for FY95. Due to difficulty in "getting out of the starting blocks" on this OU, a request for a schedule extension has been submitted to DOE for approval. Causative factors were:

- The EPA delayed work plan approval for 4 1/2 months.
- The procurement process for the subcontractor took 3 months due to a possible conflict of interest (COI) issue.
- The Health and Safety Plan took 2 months.
- Additional time was required to meet the compliance with the flood plain DOE regulations, eg., Federal Register publication.
- The Fish and Wildlife Department delayed approval to work in the area due to the existence of an endangered species of flower.
- As a result of the above, the Draft Phase I RFI/RI Report was extended to July 5, 1994, and the Final Phase I RFI/RI Report was extended to December 7, 1994.
- The review process is very extensive, eg., EPA, CDH, DOE, Fish and Wildlife, etc. are all involved. In addition, the public concern with Walnut Creek in this OU is much higher than other OUs.
- Pond Water - Tye DeMass - this portion of OU 6 is broken down into three categories of pond water, eg., Categories A, B and C, with A being the most contaminated. Current plans entail purchasing a trans-portable processing unit. The estimate for this unit is based on Mr. DeMass's personal experience in designing and building several types of these units for R&D projects. This subproject also represents a first for DOE in the ER realm

due to their resistance to regulatory officials in performing unnecessary remediation activities. The current water management is considered excellent - the only reason to bring in a mobile processing unit is to appease political concerns of the EPA.

- This water goes offsite and is actually owned by its offsite users.
- The first 5 chapters of the IM/IRA have been submitted for review.
- Currently waiting for NEPA to approve the NEPA permit.
- These ponds support extensive wildlife.
- The current estimate does not include contingency.
- Hq DOE question: What if funding is pushed out to FY96 or FY97? Reply: This would seriously impact the IM/IRA effort; currently the EPA and CDH are having a disagreement over when the EPA will issue the NEPA permit.

- Waste Handling/Treatment Facilities

- EPA and CDH require that RFP place bore hole drilling tailings in waste barrels, test the tailings and then make final appropriate disposition.
- DOE has directed RFP to develop an onsite LAB to process these and other samples.
- FY95 Plans - complete onsite LAB equipment installation; manage the samples; manage the waste from OU 1, surface water, and vector extraction system (VES).
- Used \$110/square foot for Butler buildings - cost is high due to H & S and security requirements.
- Hq DOE Question: Is there a Memo of Understanding (MOU) between EM-30 and EM-40 concerning the design standards for these storage buildings? Reply: Yes - but the committees called out in the MOU have never been established. The concern is that DOE already has design criteria, EM-30 has developed their own design criteria, and EM-40 is also developing their own design criteria which circumvents DOE Order 4700 and approved EM-30 guidance. This is considered a big and important issue by DOE/PR-24. Hq DOE also made the following requests: provide more quantifiable data such as the number of samples to be handled; also provide more data in Basis of Estimates in the Activity Data Dictionary in Section 9 of the books; also want more explanation of O&M scope; lastly Hq DOE asked why 3 inhouse FTEs were required if a subcontractor was going to run the lab. Reply: people are required to run the building itself and manage the overall project effort - these tasks are not performed by the sub.

OU 4 - Steve Keith - Solar Ponds

- Status - "A" Pond is dry and empty; "B" Pond is currently being incorporated with the south end of the project, and effective April 8, 1993, the interceptor trench unit now pumps drainage into the newly installed storage tanks. A request to slip the schedule for submittal of the Draft Phase I RFI/RI Report from May 21, 1993 to April 15, 1994, is pending approval.
- Several ponds were relined and contaminated liquid transferred to the relined ponds - this action bought some time to review the viable options for final remediation action of this OU. Plans are to complete testing and startup of the Bldg 910 evaporators in FY93. Also will begin preparation of RCRA Phase II and the pond closure study.

- Due to past criticism, this OU has been completely reorganized and revamped.
 - Project office has been expanded to 19 people.
 - The project has been divided into four major areas.
 - Now expect to meet September 1993 startup for the Bldg 910 evaporators.
 - Also expect to meet June 26, 1993 hot startup of trial run.
 - A Pond has been completely emptied and is now dry.
- A work around schedule has been developed to recover previous schedule slips and to meet the established IAG milestones.
 - Proceed with IA/IMA with less than 100% of the data that is normally required.
 - NTS is assumed to be available to receive waste for storage in 1997.
 - Assume use of 25% pond crete; 75% salt crete.
- Used fully burdened labor unit cost rate of \$94.00/Hour.
- EM-40 share of total cost is approximately 40%.
- A 26% non-availability rate for training, sick, vacation, etc., was used.
 - This equates to 2080 assigned hours/month and 1680 available productive hours per month.
- Hq DOE asked for more detail and total FTE requirements with backup/manhour estimates.
 - Experience to date indicates a need for 4 operators per shift, 3 shifts a day, operating all 3 units.
 - Estimates are also based on data from similar projects from Facilities Project Management (FPM) department, then upscaled slightly.
- Hq DOE Consultant: Please provide an FTE count for each OU4 work package. This data was provided by EG&G.
- Final Action Assessment - Phase 2 RFI.
 - This assessment will require extensive vertical investigation due to contamination of bedrock.
- There is not yet a Phase 2 Work Plan, therefore, the estimate for FY95 is a planning estimate only.
- FY95 will involve some deep drilling.
- Also will be performing final characterization and baselining.
- Hq DOE requested contractor details - cost data for drilling, sampling and analysis. This data was provided by EG&G.
- Hq DOE asked if a standard plant estimating system was in place. Reply: Yes, but only for construction. A new ER estimating system and guidelines are currently being developed. A group of 4 people are currently developing the guidelines for ER estimating. Also, CORA has been obtained as a software package and is under review.
- Drilling and Sampling - WP12165, Activity 121650030
 - Hq DOE Question: Why does each OU hire a separate prime contractor, eg., why doesn't EG&G hire one prime subcontractor to do all ER drilling for all OUs? Reply: EG&G is currently using only 5 or 6 prime subcontractors. Each OU does not necessarily have a separate prime subcontractor because a particular subcontractor may serve several OUs. There is an efficiency effort that is ongoing to hire single subcontractors to perform like tasks. EG&G is currently going thru the transition pains of converting from the previous blanket contracting concept of Basic Order Agreements (BOAs) to competitive prime/Master Task

Subcontractors(MTS).

- EG&G requested Hq DOE provide official guidance concerning the definition of "ultimate/final land use". Also, EG&G asked for clarification as to why NEPA cannot be eliminated when it is duplicative of CERCLA.

- WP 12171 Relining Ponds

- DOE was instructed to use the estimates/numbers in the front of the book. The detailed backup and Activity Data Dictionary numbers are out of date.
- Hq DOE requested a copy of the Project Design Hour Estimate (PDHE). EG&G provided this data.

- Sitewide Programs - Tom Greengard -

- WP 12192 - Sitewide Treatability and Remediation Studies.

- Idea is to eliminate redundancy by individual OUs by performing "common" sitewide studies.
- This OU only encompasses those studies which are sitewide and common to two or more OUs. This group also performs the treatment studies for the individual OUs, which also helps prevent duplication.
- This group is working with other sites such as Hanford on different treatment and remediation techniques. They are NOT working on solar pond water treatment.
- This project does not have a lot of definition for future years - it is dependent upon the findings of ongoing studies which will determine what new, or additional follow-on studies will be required in following years. Accordingly, it has been assumed that the same, current level of effort will be required.
- Hq DOE Comment: Basis of Estimate in Activity Data Dictionary in Section 9 is too vague.

- WP 12193 Maintenance of Field Operators Yard

- Hq DOE Comment: The scope is too limited - for future submissions please expand and explain in more detail what the contractor is going to do for the dollars.
- Hq DOE Question: Why is RFP buying more trailers when they are preparing for a layoff of approximately 700 people? Reply: Contractors, in many cases, bring their own trailers on site. Also, in many cases, it is not feasible or possible to technically combine or mix the subcontractors. Lastly, EG&G cannot place the subcontractors in the PA area, even if PA office space was available.
- The trailers must be special constructed based upon DOE construction requirements for trailers.
- Purchasing the trailers in lieu of leasing them saves approximately \$196,000 over a 2 1/4 year period.
- Hq DOE Question: What is the difference between Project Engineering and Facility Engineering? Reply: Not sure - they have recently gone through a major reorganization and I am not sure how they have divided the engineering responsibilities. We do have a system engineer assigned specifically to our group to coordinate and disperse the work orders.
- Hq DOE Question: Has anyone formally asked for a waiver to prevent upgrading off-the-shelf trailers? Reply: No. Hq DOE Comment: Possibly Hq DOE PR-24 can help with this issue - this responsibility now falls under

the old PR group purview, in consonance with the new HQ DOE organization.

- WP 12194 - Imaging/Retrieval System

- This system, when completed and installed, should greatly enhance ER work productivity.
- This group needs to scan 250,000 pages of data for FY93 alone.
- Integration with the plant IR VAX data base was not funded and this integration project is now dead.
- Hq DOE Question: If you have 9 FTEs and 2 work stations, what are all of these FTEs doing?

Reply: Document screening, analysis, indexing, QA/QC functions, and archiving.

- Bob Benedetti - OIRAP Presentation

- Optimal Interim Remedial Action Plan (OIRAP)
- New ER WBS for Cost and Schedule Control and Improvement would accomplish the following:
 - It would centralize various functions for more efficient operations.
 - Independent reviews would become a standard approach and serve as an interface.
 - It provides for both strategic and technical approaches to the job.
- Streamlined concept such as this is needed because money required under current approach is not going to magically arrive.
- How can we do ER better and more efficiently?
 - Two weeks ago established a Remedy Review Team and the team reviewed each OU for possible efficiencies.
 - Is there sufficient information to focus the ER program?
 - Scrubb program down to those items that are realistic - stop doing unnecessary and un-needed tasks.
 - Report will be published with above findings and recommendations in approximately 45 days (7/31/93).

- Hq DOE Comments:

- Basis of Estimates in many cases are weak - you haven't really identified what it is.

- WP 12195 Geological

- WBS is outdated - "Background GeoChem" on WBS chart has been changed to 4 sub-activities.
- The big hitter for FY95 is the contract for groundwater monitoring. This is a sitewide activity.
- Sitewide data assessment is an integrated effort and is moving towards a centralized effort.
- This package picks up the work after the individual OU puts in the hole. This package picks up the sample processing and interim RCRA water monitoring. Eventually, the well will go to the landlord monitoring function and be funded accordingly.
- Assumed \$4,186/sample. \$1500/sampling event.

- WP 12197 RFEDs - No substantial comments.
- Decontamination Facilities - 1.4.7.1.6.1
 - Two decon pads are currently in operation.
 - 1 pad in the PA and 1 pad in the Bldg 903 area.
 - These pads are significantly over used and a third pad is required in the landfill area to provide additional decon capability.
 - FY95 costs are based upon a subcontractor operating the three decon pads (current 2 plus 1 new pad being built).
 - Also need new water decon processing facility for short term (interim water processing will have to be handled by individual OUs, eg., trans-portable unit for ponds). This facility will replace the existing water processing systems in buildings 371, 374 and 881 which are very restrictive and constrained concerning what categories of contaminated water they can process.
 - This facility will not supplant, and cannot wait for, the final remediation water treatment (TSD) facility which will support the whole site, and which is to be constructed in the out years.
 - Hq DOE Comment: Why not build a water recycling operation in lieu of hauling water in, deconing, and hauling contaminated water off site. EG&G agreed to look at this alternative.
- Program Management - Kerry Adams
 - Historical experience indicates PM has averaged \$8.0M/year.
 - Funding has been available only because of unplanned carryover and unexpected under-runs in other ADSs.
 - By FY95, a cumulative carryover of approximately \$15.0M is anticipated.
 - Carryover, in this case, is defined as "Uncosted Obligations".
 - Summary Sheet is missing \$500K for D&D.
 - EG&G uses peer review by Rocky Mountain Universities Consortium - this contract is managed by Program Management.
 - Integrated Management performs strategic planning which encompasses continuous review of ER infrastructure, eg., OU alignment, etc., to identify areas for improvement.
- Onsite/Offsite Water Management - No significant comments.
- Decontamination and Decommissioning - Pete Sanford/Tye DeMass
 - How we got to where we are at today:
 - Initially, all D&D was zero'd out.
 - New emphasis was then placed on D&D activities.
 - Current estimated ER cost is \$160M for FY95.
 - Authorization received to allocate additional 10% which is approximately \$16M for FY95.
 - FY95 is now planned at the above \$16M for D&D effort.
 - Planned FY95 activities require extensive preplanning and documentation development in FY's 93-94.
 - Only \$500K currently planned for FY94 - Attempt will be made by EG&G to identify additional funding for re-programming upon submittal of FY94 work packages.
 - Book Review -
 - WBS is outdated - not discussed.
 - FY93 - FY94 extensive planning required to support proposed FY95 activities.

- Bldg 779 pilot project - remove 4 gloveboxes, size reduce.
 - Cost is approximately \$7.1M.
 - Hq DOE Comment: Ongoing negotiations with EPA could result in placing D&D under CERCLA, which in turn would tie D&D to the IAG milestone concept. A proposal to stop ER and accelerate D&D was not approved by EPA, but the regulators indicated they want to be involved in D&D.
- FY95 Validations Closeout - Comments from Hq DOE/PR-24
- RFP has made extensive progress in the validation books compared to last year. Good job.
 - Improvements can still be obtained in the following areas:
 - Consistency in format and content among the books.
 - Many Basis of Estimates did not have sufficient detail - need to provide factors and application of factors, manhours, FTEs, etc.
 - Need to add crosswalks from previous two FYs, eg., next validation should have crosswalks for FY93 to FY94, FY94 to FY95 and FY95 to FY96.
 - Summary lists need to be provided in the front of each OU book to facilitate quickly identifying the big hitters.
 - Need to add a list of deliverables and associated estimated costs for each FY. These are required to support presentations to ESAAB.
 - A draft report on this validation will be provided in approximately 2 weeks.
 - Everyone was very cooperative and supportive - it is greatly appreciated. This was particularly noteworthy in consideration of the very short time provided to prepare for the validation meetings.
 - The plant is moving in the right direction with the IM/IRS approach, program controls, and continuous reviews to improve ways of doing business.

ROCKY FLATS FY95 VALIDATIONS "LESSONS LEARNED"

Perform Peer Review of all OU validation books a minimum of five days prior to the validation meeting.

- Review for standardization of format, content and indexing/tabbing.
- Review "Scope" to ensure sufficient detail and descriptions are present.
- Review Basis of Estimates to ensure sufficient factors, FTEs, manhours, sources of information, and calculations are provided - see Central Planning BOE Guide.
- Provide a backup BOE sheet with intermediate supporting data, e.g., develop standard input sheet to generate backup.
- Include name and telephone extension of each OU presenter in the front of each validation book for future telecon inquiries.

Provide more formalized meeting attendance documentation.

Realign the "Program Management" presentation to the front of the meeting immediately following the AGM presentation. The PM topics are more closely aligned with the subjects discussed by the AGM.

Subsequent to above peer reviews, conduct abbreviated dry runs with the OU presenters to ensure that a common understanding of the presentation methodology to be used in the meetings is established.

Provide administrative support to record all pertinent discussions of the meetings; to record action items, responsible actionees names, and due dates; and to publish and distribute meeting minutes.

Pre-prepare standard handouts for plant-wide generic cost items such as labor rates, escalation rates, contingency rates, overhead, etc.

Provide training to the OU managers on project management concepts in DOE Order 4700.1 to ensure a thorough understanding of the DOE budgeting and funding process is present.

Develop and present the 4700.1 Key Decision (KD) Milestone Schedule for the RFP ER Program.

Ensure the critical path is reflected on schedules provided at the validation meeting.

Present a Budget Authorization (BA)/Budget Obligation (BO) and funding profile summary chart for current year (CY), budget year (BY) and budget year plus one chart for each OU.

Consider having higher management attend the validation meeting kickoff and closeout sessions. A physical presence by higher management would provide the necessary visibility to this annual opportunity to defend the "bread and butter" for the plant for the next budget year and next budget year plus one forecast.

How about some examples....First the good:

Description: The Cost Estimate Validation Group will validate FY 94 Budget Work Packages. Validation will include 80% of the work in 70% of the total work packages developed. This new requirement is mandated by DOE. The period of performance for this effort is 17 May - 27 September 1993.

Basis of Estimate: The estimate was developed using a combination of both parametrics and bottoms-up methodologies. For FY 93, there were a total of ___ work packages developed, each containing an average of ___ tasks/activities. A sample review of ___ work packages was completed by the Cost Estimate Validation Group. Each work package required an average of ___ hours to review 80% of the data contained within it. Documenting cost data was collected manually on this effort and is maintained in Building T111A, module 19.

It is estimated that there will be a total of ___ work packages for FY 94. Using the above data, ___ work packages will be validated. (70% x ___ work packages). Total hours required are ___. (___ hours per work package x ___ work packages).

Travel is estimated for one trip for two people to Idaho in June to evaluate their cost validation system. Total cost for the trip is \$_____ (show costs separately for per diem, air fare, rental car, airport parking and mileage allowance or taxi to and from the airport). Purchased services are required for technical support. A quote from _____ was received for \$_____. No escalation has been applied.

Now for the bad:

Description: The Cost Estimate Validation Group will validate FY 94 Budget Work Packages.

Basis of Estimate: It is estimated that this effort will require four (4) FTEs. Travel is estimated at \$_____. Purchased services are estimated at \$_____.

What was wrong with that last example:

- First, the description is incomplete. It does not contain a full description of the task, including why the effort is required and when the effort will be accomplished.
- There is no definition for the total hours included in one FTE.
- The basis of estimate is incomplete. It does not state which methodology was used to build the estimate, nor how the estimate was built.
- There is no basis for why the amount being estimated is required.
- There is no quantification or formulas for the amount being estimated.

Where can you go for help?

The Cost Estimate Validation Group is available to answer questions regarding the writing of Basis of Estimates.

They can be reached at either X5955 or X6393.

A Guide for Preparing BOEs (Basis of Estimates)

Prepared by:
Central Planning and Budgets
Cost Estimate Validation Group



What is a BOE?

A Basis of Estimate (BOE) explains logic, method, data and calculations used to estimate resources required to perform work described in a Scope Summary.

In other words.....

BOEs document thought process, approach and rationale used to arrive at the estimate being proposed for a particular task/activity. A BOE answers the question "What is this estimate based on?" It will provide rationale as to why the proposed value is representative and credible. A BOE is the justification for the estimate.

Work Package Form 7.1 Basis of Estimate requires the following information:

- Activity Number, Total Hours, Non-Labor Dollars, Total Dollars
- Description:
 - What is being estimated?
 - Why is the effort required?
 - Who will perform the effort?
 - When will the effort occur?
- Basis of Estimate:
 - How was the estimate built?
 - What methodology was used to make this estimate?
 - Why is the amount estimated required?
 - Provide quantification (formula) for the amount being estimated.

Why are BOEs necessary?

- Sells the estimate to EG&G RFP Management, RFO, DOE.
- Required by DOE.
- Enables DOE to assess credibility of estimates and ability to perform.
- Quantifies scope of work.
- Shows understanding of requirements.

How are BOEs prepared?

- Description:
 - Be brief and to the point.
 - Reference any deliverables required.
 - State the work to be accomplished that is justified by the BOE.
 - Identify scheduled period of performance.
 - Although much of this data is in the scope summary on an earlier format, summarize here as well, since this is for each individual activity.
- Basis of Estimate:
 - Identify which estimating approach was used and why.
 - It is not necessary to include all backup data; provide sufficient information so that a reviewer is not continually having to refer to the backup information.

- Identify specifically where backup data can be found.

- Define any estimating factors used (e.g. One FTE = xxx hours).

- Use one or a combination of the following estimating methodologies:

- Bottoms-up
- Specific Analogy
- Parametrics
- Cost Review and Update
- Trend Analysis

- Provide logical step-by-step analysis.

- Show all calculations involved - maximize the use of quantitative descriptors (e.g. number of drawings, pages, procedures, etc.).

- Explain all judgmental factors by clearly stating the logic used in developing the estimate - show thought process.

- Identify and explain all estimates for non-labor requirements.

-- If purchased services are required, where/how was the estimate derived (i.e. old purchase order, quote, etc) - if from an old Purchase Order, provide the P.O. number, date and state if any and what escalation was used on the estimate.

-- Travel estimates should show the number of people travelling per trip, the number of nights per person per trip, the destination, the purpose of the trip, when the trip is expected to occur, etc.